

REMARKS

With this Response, claims 8, 10, 14, 17 and 14 are amended. No claims are cancelled or are added. Claims 8-27 remain in the application for consideration.

Claim Rejections - 35 USC § 112

Claims 8-27 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8, 12-14, and 24-26 are rejected under 35 USC 102(b) as being anticipated by Homma et al. (U.S. Pat. No. 5,777,300).

Claims 8-11, 14-18, and 20 are rejected under 35 USC 102(b) as being anticipated by Matsui (U.S. Pat. No. 5,766,671).

Claim Rejections - 35 USC § 103

Claims 10, 11, 17 and 19 are rejected under 35 USC 103(a) as being unpatentable over Matsui (U.S. Pat. No. 5,766,671) in view of Homma et al. (U.S. Pat. No. 5,777,300) and Sanada (U. S. Pat. No. 5,985,357).

Claims 12, 13, and 21-26 are rejected under 35 USC 103(a) as being unpatentable over Matsui (U.S. Pat. No. 5,766,671) in view of Homma et al. (U.S. Pat. No. 5,777,300).

The Rejection of Claim 8-27 Under 35 USC 112, Second Paragraph

Claims 8-27 have been rejected under 35 USC 112, second paragraph. It is submitted that this rejection is either overcome or incorrect in view of the above amendments and the following remarks.

1. Claims 8, 17 and 24

The Examiner asserts that these claims recite (i) a system for coating a workpiece without claiming any coating device or application means, and (ii) a process limitation without reciting any structure as to how the process limitation is to be accomplished. Applicants have amended claims 8, 17 and 14 the recite the presence of a dispenser for delivering the fluid coating composition to the workpiece. Applicants have further amended these claims to recite that the workpiece is rotatably supported inside of the coating

enclosure. Based upon these amendments, Applicants submit that they have overcome the rejection of claims 8, 17 and 24 under 35 USC 112, second paragraph.

2. Claim 10

The Examiner asserts that claim 10 recites coating process parameters but that none of these parameters can be determined from the recited structure because none of the structure is claimed to enable information to be obtained therefrom. Applicants traverse this rejection.

Claim 8, from which claim 10 is dependent, recites the presence of a control system operatively connected to the pressure sensor. The control system is adapted to control at least one coating thickness parameter by means of an output control signal. It has componentry that enables the control system to derive the output control signal from information comprising the generated pressure signal. Thus, the structure that the Examiner asserts is missing is the componentry that enables the control system to derive the output control signal from information comprising the generated pressure signal.

It is submitted, therefore, that claim 10 has the required structure and that the rejection under 35 USC 112, second paragraph for this reason is incorrect.

2. Claim 11

The Examiner has rejected claim 11 under 35 USC 112, second paragraph because of the use of the term “intra-station” in claim 10 from which it is dependent. Applicants have replaced the term “intra-station” in claim 10 with the phrase “process timing.” Accordingly, they submit that this rejection of claim 11 has been overcome.

3. Claim 14

The Examiner asserts that it is unclear how the information used to derive the output signal constitutes a further structural limitation over claim 8. Applicants have amended claim 14 to recite that the system has componentry that comprises hardware, software, or a combination thereof. Accordingly, they submit that this rejection of claim 14 has been overcome.

4. Claims 16 and 20

The Examiner asserts that these claim are dependent from claims that do not recite the presence of a source of supply for the coating. As Applicants have amended claims 8 and to recite the presence of a source of supply, they submit that this rejection of claims 16 and 20 has been overcome.

5. Claim 22

The Examiner asserts that it is unclear how the workpiece being a semi-conductor further structurally limits the system of claim 17. Applicants traverse this rejection.

As the Examiner has noted, Applicants claims are directed to a system. That system is for coating a workpiece. Claim 22 limits that workpiece to a semi-conductor. Thus it further limits claim 21 by narrowing the scope of the workpiece to a semi-conductor. Accordingly, Applicants submit that the rejection of claim 22 on this ground under 35 USC 112, second paragraph is incorrect.

6. Claim 23

The Examiner asserts that it is unclear how pressure being determined during rotation of the workpiece further structurally limits the system of claim 17. Applicants traverse this rejection.

As the Examiner has noted, Applicants claims are directed to a system. That system is for coating a workpiece. The system further comprises a pressure sensor for generating a pressure signal inside of a coating enclosure. Claim 23 adds the feature that the pressure signal is indicative of the pressure while a workpiece is being rotated. Thus it further limits claim 22 by narrowing the scope pressure signal to that generated at a specific point in time. Accordingly, Applicants submit that the rejection of claim 23 on this ground under 35 USC 112, second paragraph is incorrect.

7. Claim 26

The Examiner asserts that it is unclear how pressure being determined during rotation of the workpiece further structurally limits the system of claim 24. Applicants traverse this rejection.

As with the rejection of claim 23, the Applicants claim a system for coating a workpiece. The system further comprises a pressure sensor for generating a pressure signal inside of a coating enclosure. Claim 26 adds the feature that the pressure signal is indicative of the pressure while a workpiece is being rotated. Thus it further limits claim 24 by narrowing the scope of the pressure signal to that generated at a specific point in time. Accordingly, Applicants submit that the rejection of claim 23 on this ground under 35 USC 112, second paragraph is incorrect.

The Rejection of Claims 8, 12-14, and 24-26 over Homma (US 5,777,300) Under 35 U.S.C. §102

Claims have 8, 12-14 and 24-26 been rejected under 35 U.S.C. §102(b) as being anticipated by over Homma. The rejection is traversed.

Homma teaches a processing furnace for oxidizing objects. This is accomplished by evacuating the interior of the processing furnace, supplying water vapor to the to the

processing apparatus, and oxidizing the surface of a workpiece by contacting that surface with the water vapor at an elevated temperature.

Homma does not teach that the workpiece is rotatably supported inside of the processing furnace. In fact, Homma teaches that the workpiece is held in a stationery position. See Figs. 1 and 6 where the only motion allowed for the workpiece is a horizontal motion to load and unload the processing furnace.

Additionally, Homma does not teach that there is a dispenser for delivering a “predetermined” amount of the fluid composition to the surface of the workpiece. To the contrary, Homma delivers a constant supply of water vapor to the interior of the processing furnace once a desired vacuum pressure has been achieved. This constant supply is not a predetermined amount but is dependent upon the duration of the oxidizing process. See column 7, lines 1-28.

Further, Homma does not teach that there is a control system operatively coupled to the pressure sensor and adapted to control at least one “coating thickness parameter” via an output control signal, wherein the control system comprises componentry enabling the control system to derive the output control signal from information comprising the generated pressure signal. Rather, Homma controls the pressure inside of the processing furnace to a desired level. See column 2, lines 19-30. Applicants, on the other hand, monitor the barometric pressure in the coating enclosure and adjust other parameters (i.e., the coating thickness parameters) based upon changes in the barometric pressure in the coating enclosure. As a result, Applicants’ claims go against the teaching of Homma by merely monitoring the pressure inside of a coating enclosure and not adjusting that pressure to a desired level.

Accordingly, Homma does not teach each and every element of claims 8, 12-14 and 24-26 and does not anticipate them.

The Rejection of Claims 8-11, 14-18, and 20 over Matsui (US 5,766,671) Under 35 U.S.C. §102

Claims have 8-11, 14-18 and 20 been rejected under 35 U.S.C. §102(b) as being anticipated by over Matsui. The rejection is traversed.

Matsui teaches a coating apparatus comprising (1) cup means (a coating enclosure) surrounding the substrate and having a top opening above the substrate; and (2) sensor means provided outside of the cup means for sensing atmospheric pressure. Matsui does not teach “operatively coupling an exteriorly positioned pressure sensor to the interior of the coating

enclosure via a pressure communicative conduit,” as is required in the present claims. Matsui specifies at column 2, lines 43-51:

“According to the present invention, the cup means has the top opening, and therefore, the atmospheric pressure inside the cup means is substantially identical to the outside of the cup means. This allows the sensor means to be provided outside the cup means to thereby attain accurate monitoring of the atmospheric pressure inside the cup means. The sensor means provided outside the cup means is hardly exposed to the liquid splashed from the substrate and correct sensing is attained.” (Emphasis added.)

Further, Matsui specifically places the pressure sensor outside of a cup means coating enclosure (see Matsui at column 2, lines 27-28):

“e) sensor means provided outside the cup means for sensing atmospheric pressure”
(Emphasis added.)

Matsui emphasizes the importance of placing the sensor outside of the cup means, and not inside, as stated above, because this prevents exposure of the sensor to liquid splash from the substrate inside of the coating enclosure. And to repeat, Matsui does not teach to “operatively coupling an exteriorly positioned pressure sensor to the interior of the coating enclosure via a pressure communicative conduit,” as recited in claim 1.

Matsui exclusively describes that a pressure sensor should be provided outside of the coating enclosure, and not inside. According to Matsui, a reading taken outside of the coating enclosure is “substantially identical” to the inside pressure. Consequently, there is no teaching, need or motivation, based on the description of Matsui, to take an inside pressure reading by coupling an exterior pressure sensor to the interior. Applicants’ claims go against this direct teaching of Matsui by reading the pressure inside of the coating enclosure, which, as not appreciated by Matsui, is in fact more accurate than the outside measurement of Matsui.

Accordingly, Matsui does not teach each and every element of claims 8-11, 14-18 and 20 and does not anticipate them.

The Rejections of Claims 10, 11, 17 and 19 under 35 USC 103(a) over Matsui and Sanada (US 5,985,357) in view of Homma

Claims 10, 11, 17 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Matsui (U.S. Patent No. 5,766,671) in view of Homma and Sanada. Applicants traverse the rejection.

As described as described above, Matsui describes a barometric pressure signal taken outside of a coating enclosure while Homma describes an oxidizing furnace. Sanada describes a method of supplying a treating solution based upon a pre-stored processing program. It is not apparent combining an oxidizing furnace that fails to teach several of the required elements of the independent claims and a process for delivering a supply of a treating solution based on a pre-stored processing program can render these claims unpatentable. To the contrary, even when these references are combined, they do not provide the apparatus claimed by Applicants. The combination simply fails to suggest measuring barometric pressure inside of a coating enclosure where a workpiece is rotatably supported.

The Rejection of Claims 12, 13 and 21-26 Under 35 USC 103(a) Over Matsui in View of Homma

Claims 12, 13 and 21-26 stand rejected under 35 USC 103(a) as being obvious over Matsui in view of Homma. Applicants traverse the rejection.

Claims 12, 13 and 21-26 would not have been obvious over the above combination of Matsui and Homma, for the reasons set forth above with regard to the rejection of claims 10, 11, 17 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Matsui (U.S. Patent No. 5,766,671) in view of Homma and Sanada.

CONCLUSION

In view of the preceding, it is believed that Applicants have shown that all of the rejections have been overcome. They request withdrawal of all of the rejections and allowance of all claims.

Respectfully Submitted,

JOSEPH W. DAGGETT et al.

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By: James V. Lilly
James V. Lilly, Reg. No. 27,817
Customer Number 33072
Phone: 651-275-9844
Facsimile: 651-351-2954

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